

What is claimed is:

1. A hybrid compressor comprising:
  - a housing;
  - 5 a rotary shaft rotatably supported by the housing;
  - a compression mechanism located in the housing and connected to the rotary shaft for compressing refrigerant gas;
  - 10 a drive mechanism located in the housing for driving the compression mechanism;
  - 15 a speed-changing mechanism located in the housing for transmitting power from the drive mechanism to the compression mechanism via the rotary shaft, the speed-changing mechanism varying the rotational speed of the drive mechanism; and
  - a sealing mechanism located in the housing for sealing the speed-changing mechanism.
2. The hybrid compressor according to claim 1, wherein the housing includes a first housing and a second housing that are fixed to each other, the compression mechanism being located in the first housing, the drive mechanism and the speed-changing mechanism being located in the second housing.
3. The hybrid compressor according to claim 2, wherein the first housing

includes a first housing main body and a center housing having a shaft hole through which the rotary shaft is inserted, the second housing being hermetically fixed to the first housing, the sealing mechanism being located between the rotary shaft and the through hole.

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4. The hybrid compressor according to claim 1, further comprising a transmission mechanism provided outside the housing for transmitting power from an external drive source to the rotary shaft to drive the compression mechanism.

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5. The hybrid compressor according to claim 1, wherein the speed -changing mechanism reduces the rotational speed of the rotary shaft relative to the rotational speed of the drive mechanism.

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6. The hybrid compressor according to claim 1, wherein the speed-changing mechanism and the housing form a lubricant storage space for storing lubricant that lubricates the speed changing mechanism.

7. A hybrid compressor comprising:

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a housing;  
a rotary shaft rotatably supported by the housing;  
a compression mechanism located in the housing and connected to the

rotary shaft for compressing refrigerant gas;

a drive mechanism located in the housing for driving the compression mechanism;

5 a speed-changing mechanism located in the housing for transmitting power from the drive mechanism to the compression mechanism via the rotary shaft, the speed-changing mechanism varying the rotational speed of the drive mechanism; and

a sealing mechanism located in the housing for sealing a lubricant storage space partially defined by the speed-changing mechanism.

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8. The hybrid compressor according to claim 7, wherein the sealing mechanism is located between the housing and the speed-changing mechanism.

9. The hybrid compressor according to claim 7, wherein the rotary shaft  
15 extends through the lubricant storage space, the sealing mechanism being located between the housing and the rotary shaft.

10. The hybrid compressor according to claim 7, wherein the rotary shaft  
extends through the lubricant storage space, the sealing mechanism being  
20 located between the speed-changing mechanism and the rotary shaft.

11. The hybrid compressor according to claim 7, wherein the speed-changing

mechanism further comprises a first gear and a second gear, the sealing mechanism being located between the first gear and the second gear.

12. The hybrid compressor according to claim 11, wherein the sealing  
5 mechanism is located between the first gear and the drive mechanism.

13. The hybrid compressor according to claim 7, wherein the speed -changing mechanism reduces the rotational speed of the rotary shaft relative to the rotational speed of the drive mechanism.

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14. The hybrid compressor according to claim 7, wherein the speed-changing mechanism includes a first gear, the rotary shaft extending through the lubricant storage space, the lubricant storage space including a first space substantially defined by the first gear, the rotary shaft and the housing, the sealing mechanism  
15 sealing the first space.

15. The hybrid compressor according to claim 7, wherein the speed-changing mechanism includes a first gear, the rotary shaft extending through the lubricant storage space, the lubricant storage space including a first space substantially defined by the first gear and the rotary shaft, the sealing mechanism sealing the  
20 first space.

16. The hybrid compressor according to claim 7, wherein the speed-changing mechanism includes a first gear, a second gear and a third gear, the lubricant storage space including a second space substantially defined by the first gear, the second gear and the third gear, the sealing mechanism sealing the second  
5 space.

17. The hybrid compressor according to claim 7, wherein the speed-changing mechanism includes a first gear and an arm, the rotary shaft extending through the lubricant storage space, the lubricant storage space including a third space  
10 substantially defined by the first gear, the arm, the rotary shaft and the housing, the sealing mechanism sealing the third space.

18. The hybrid compressor according to claim 7, wherein the speed-changing mechanism and the housing form the lubricant storage space for the storing  
15 lubricant that lubricates the speed-changing mechanism.

19. A hybrid compressor comprising:  
a housing;  
a rotary shaft rotatably supported by the housing;  
20 a compression mechanism located in the housing and connected to the rotary shaft for compressing refrigerant gas;  
a drive mechanism located in the housing for driving the compression

mechanism;

a speed-changing mechanism located in the housing for transmitting power from the drive mechanism to the compression mechanism via the rotary shaft, the speed-changing mechanism varying the rotational speed of the drive  
5 mechanism;

a sub-housing located in the housing for housing the speed-changing mechanism and for providing lubricant space to maintain lubricant; and

a sealing mechanism located in the housing for sealing the sub-housing between the compression mechanism and the drive mechanism.